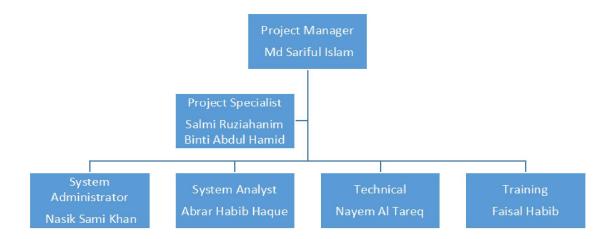
1.0 Project Report 1: Project Proposal

1.1 Companion Tools for Elderly

1.1.1 General Project Information

The project that we are going to develop is Companion Tools for Elderly. This system basically is inspired by Health, Elder 411 and Elderly Care applications. that help user keep their health records everywhere they are. The users of this system include patient, physician, and doctors. Beside that, this system help the doctors and physicians to coordinate their patients health records even the patients is not with them. Many of us have friends and family members who we are close to, who keep us sane. However, when we get older, it can be hard to keep in touch with our loved ones. If our children are grown, they may have their own lives keeping them busy. In addition, the sad reality is that as we age, our friends start passing away. It can be difficult to cope with these losses and deal with the loneliness. Generally this system focussing for the elderly user because elderly find it difficult to deal with technology. Besides, nowadays technologies are getting bigger and fast. Therefore, our main purpose is to make an assistant with Daily task, open lines of communication, a sense of security and general comfort. We will conduct an overall problem analysis in order to develop the best system. Our system is specifically focused on to provide a visual partner to take care of our elders.

1.1.2 Organization Background



1.1.3_Problem Description

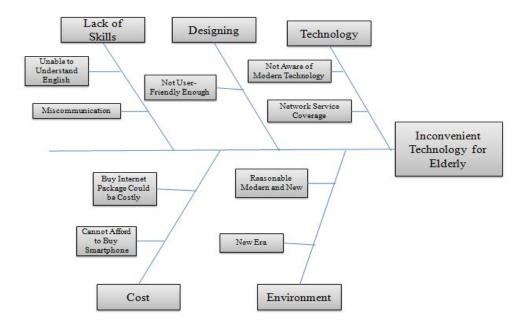
1.1.3.1 Problem Statement

Smartphone was introduced after our grandparents and parents era. As young generation we have been exposed to technology since we were kids. Our grandmother and grandfather even our mother and father might did not know how to handle with technology. The issue has not been solved since smartphone was introduced, and it was not being exposed to them. Even though they might have a smartphone but they only know how to make calls, text messages or maybe if they are a little bit advance by using WhatsApp messenger.

1.1.3.2 Issues

- Elderly is facing difficulties to handle with technology especially on smartphone.
- Less exposure about the changer of technology to elderly.
- The interface is complicated and not understandable for user.

1.1.3.3 Fishbone Diagram



1.1.4 Project Objectives

- Create a user-friendly companion tools especially for user.
- To provide a highly convenient view of clinical lifestyle management.
- To ensure that the application is understandable for user to use.

1.1.5 Project Scope

1.1.5.1 Targeted Users

- Elderly (age above 40)
- Patients
- Guardian

1.1.6 Significance of the Project

- Assisting the users (elderly, physicians, patients) to easily keep track on their health records.
- Assisting the patients to manage their food intakes, medicine intakes, hospital visits, regular exercises and sleep times.
- Help the physician to coordinate the health condition of their patients by providing the health records of their patients.
- To reduce time for finding out their patients data using the patients ID number.

1.1.7 Project Deliverables

Task	Week	3 Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14
Scope Definition												
Problem Analysis												
Data Gathering												
System Analysis												
Design Analysis												
Physical Design												

1.2 Conclusion

• The main goal of this project is to help the elderly to manage their daily health lifestyle including food intakes, medicine intakes, hospital visits and regular activities because our system is made to give precise information for everything need to be done to help patients especially elderly people. On top of that, it is a challenge for us to create such an elder friendly application system as they need at first to be exposed with technology. The system should satisfy all the customer requirements, and our software program is also available and compatible for all operating systems. Finally, we have to stay up to date for every change that may happen and we have to optimize the usage of our system.

1.3 References

- Eric Wicklund. "How to Design and Develop a Mobile Health Application"
 https://mhealthintelligence.com/features/how-to-design-and-develop-a-mobile-health-application
- Abhijot Kaur. Dec 13, 2016. "Designing Healthcare apps: 10 best practice to follow" https://kaysharbor.com/blog/healthcare/10-best-practices-for-designing-healthcare-apps
- Online J Public Health Inform 2014; 5(3): 229. 2014 Feb 5. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3959919/

2.0 Project Report 2: Data Collection Report

2.1 Data Collection

Method used to gather user requirements for E-Companion Apps project is survey questionnaire. The researcher creates one survey where elderly, guardian of elderly and patients will answer the questions.

The respondent for this survey includes community around Gombak, Klang and Rawang which also includes the guardian of the elderly and also the patients who always seek for doctor's assistance. The questionnaire was created using Google Form and distributed online through Whatsapp and email.

The questionnaire consists of three parts which the first part is a list of questions about demographic information. The second part will ask the respondent about the current system that available in the app store now. The third part is the questions based on the proposed system by researcher. For second and third part, the respondent were given opportunity to give any suggestions for improvement of the current system and the proposed system. Refer **3.1** for the list of questions.

2.1.1_List of Questions

Survey Form For E-Companion

Assalamualaikum and thank you for your cooperation in this survey. We are the students of KICT-IIUM and currently we are doing our project for System Analysis And Design.

We are going to develop an app for the elderly people regarding their companion tools. The app will provide them medical facilities, regular follow ups and other exciting features.

Therefore we would love to have your accompany in order to know about your experience and thoughts about the current system and also the features you would love to see in the upcoming app .This will make improvements to the app.

The survey will take around 5 minutes. We really appreciate your participation ! Thank you and have a nice day :)

* Required

DEMOGRAPHIC INFORMATION

. Name (Nama) *
2. Age (Umur) *
Mark only one oval.
below 40 (bawah 40)
40-49
50-59
60-69
70 or above (atas 70)
3. Gender (Jantina) *
Mark only one oval.
Male (Lelaki)
Female (Wanita)
Citizenship (Warganegara) * Mark only one oval.
Malaysian (Malaysia)
International (Antarabangsa)
5. You are a user of ? *
Check all that apply.
Android
iOS
Others (Lain-lain)
6. If other platform then please mention here

Existing System

7.	Do you use any health applications on your smartphone? (Adakah anda menggunakan aplikasi pemantauan kesihatan pada telefon pintar anda?) * Mark only one oval.
	YES
	NO
8.	Rate the features of the existing applications ? (Nilai bagaimana spesifikasi aplikasi tersebut?) *
	Mark only one oval.
	Totally satisfied (Cukup memuaskan)
	Satisfied (Memuaskan)
	Not satisfied (Tidak Memuaskan)
ç	9. You think that the interface is interesting and understandable (Anda merasakan paparan pengguna menarik dan mudah difahami) * Mark only one oval.
	Totally satisfied (Cukup memuaskan)
	Satisfied (Memuaskan)
	Not satisfied (Tidak Memuaskan)
1(Details and records included in the application is enough (Maklumat dan rekod data yang disediakan oleh aplikasi mencukupi) * Mark only one oval.
	Totally satisfied (Cukup memuaskan)
	Satisfied (Memuaskan)
	Not satisfied (Tidak Memuaskan)
1	The application is easy to handle (Applikasi mudah untuk digunakan) * Mark only one oval.
	Totally satisfied (Cukup memuaskan)
	Satisfied (Memuaskan)
	Not satisfied (Tidak Memuaskan)
1	What improvement do you think is it need to improve the current system? (Apakah caruntuk membaik pulih sistem aplikasi yang sedia ada)

PROPOSED SYSTEM

13. Which features would you love to see in our app * Check all that apply.
1.A band strap that can measure heart beat rate, blood pressure, calories burned, walk distance and steps (Gelang yang boleh mengukur nadi jantung, tekanan darah, kalori, jarak berjalan dan langkah berjalan)
 2.Emergency call to the nearest hospital (Talian panggilan kecemasan ke mana-mana hospital terdekat)
3.Online appointment with the doctor and hiring a nurse can be made through the application (Temujanji bersama doktor dan mengupah jururawat boleh dibuat secara atas talian melalui aplikasi)
4.Reminder of the appointment, 3 days before, a day before (Peringatan temujanji selama hari sebelum dan sehari sebelum)
5.Medical history will be recorded in each signed up account (Rekod kesihatan akan disimpan di dalam setiap akaun yang berdaftar)
6.Offline games to release stress and past the time (Permainan luar talian untuk melepaskan stress dan melengahkan masa)
14. Others recommendation (Cadangan lain-lain):

2.1.2 Data Collection Results

According to the result of the questionnaire, there are 102 respondents who have completed the questionnaire of E-Companion apps system. Based on demographic information, 68.6% of the respondents are male and most of the respondents age below 40 with 39.2% and female with 31.4%. There is least percent of user age above 70 which 2.9% only, for age 40-49 with 16.7%. The second highest of percentage is from user age between 50-59 with 29.4% and the second least from age between 60-69 with 11.8%. The citizenship of the respondent almost equal to half by 41.2% from the international respondents and 58.8% are Malaysians. About 71.6% of the respondents used android as their platform followed by 22.5% of iOS user and only 7.8% of respondents using other operating system.

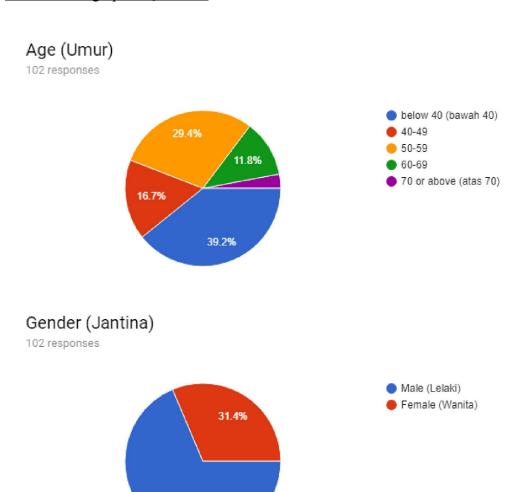
Based on the current system part, a very least number of respondents who do not user any health applications compared to who use the apps with 74.5% of them. Next, most of them rate that the features of the existing apps is totally satisfying to them with a total of 58.8% and 17.6% were not satisfied. On top of that, a total of 69.6% who totally satisfy and satisfy with the current interface system is interesting and understandable and 20.6% who do not satisfy. Besides, more than half percent of the respondents agree that the details and records in the apps are enough which is 52%. However, there is a least number of respondents who are not satisfy with the statement "The application easy to handle" with 21.6%. In the recommendation section we only received 13 comments and there are two identical recommendations which is to make the font much bigger regards the interface of the apps. Some also say to make ease for the usage of the apps and make it more faster.

For the proposed system part, most of the respondents want the system to have a band strap that can measure heart beat rate, blood pressure, calories burned, walk distance and steps along with emergency call to the nearest hospital. These two proposed system received the same amount of respondent which is 79.4%. Furthermore, 78.4% agree to have the online appointment with the doctor and hiring a nurse can be made through application and 80.4% agree to have a reminder regards the appointment in the apps too. Beside that, the most least number of respondents in

this section with 57.8% who agree to add offline games in the apps and the second least agree for medical history will be recorded which is 72.5%.

2.1.3 Summary

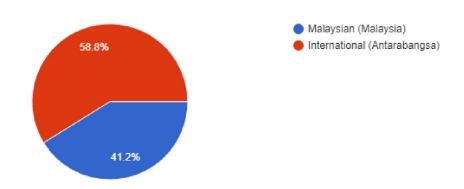
2.1.3.1 Demographic Questions



68.6%

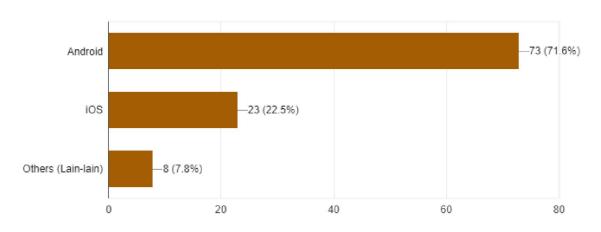
Citizenship (Warganegara)

102 responses



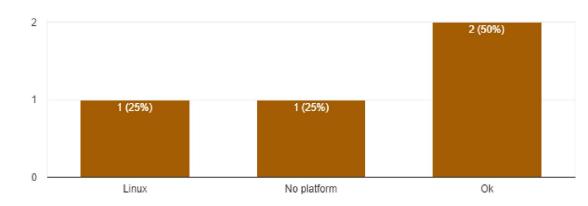
You are a user of?

102 responses



If other platform then please mention here

4 responses

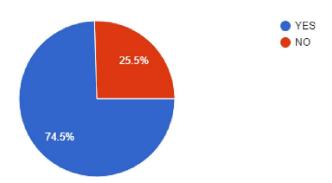


2.1.3.2 Existing System

Do you use any health applications on your smartphone?

(Adakah anda meng...auan kesihatan pada telefon pintar anda?)

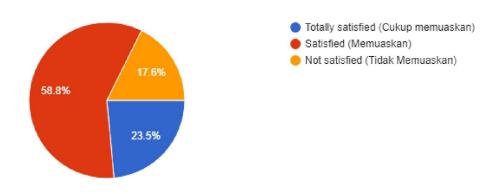
102 responses



Rate the features of the existing applications?

(Nilai bagaimana spesifikasi aplikasi tersebut?)

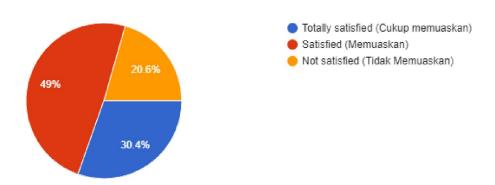
102 responses



You think that the interface is interesting and understandable

(Anda merasakan ...ran pengguna menarik dan mudah difahami)

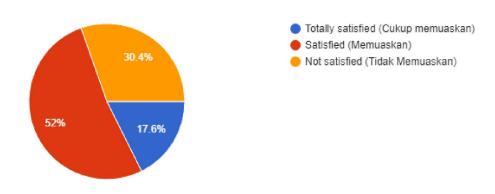
102 responses



Details and records included in the application is enough

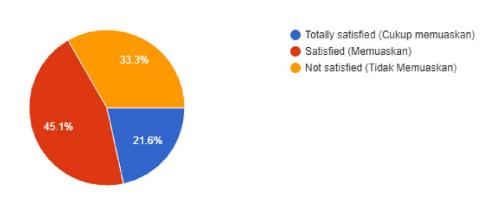
(Maklumat d...ata yang disediakan oleh aplikasi mencukupi)

102 responses



The application is easy to handle (Applikasi mudah untuk digunakan)

102 responses



What improvement do you think is it need to improve the current system? (Apakah cara untuk membaik pulih sistem aplikasi yang sedia ada)

Bigger fonts (3)
I don't use any system..
I have no idea

Don't know
Use it easily

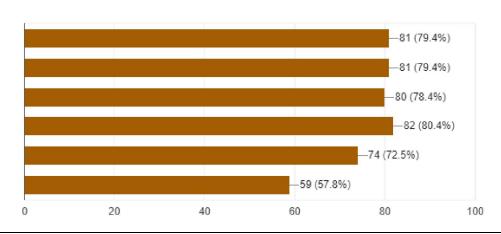
Actually i dont use any app but my friends do and i shared from their experience
Speed
Relevant
its complecated

The usage of the interface, make it a bit bigger and colourful
Makes it reliable for everyone to use

2.1.3.3 Proposed System

Which features would you love to see in our app

102 responses



Others recommendation (Cadangan lain-lain):

7 responses

Go ahead for your project

Nothing

No

Read blood pressure

Please try to implement those proposals

Relevant doctor apps

Faster apps

2.1.4 Conclusion

Based on the survey that we had done, we will apply four of our six proposed system that is the band strap, emergency call button, online appointment, hiring nurse and medical history that will be recorded. We pick the 4 features because it has the most highest votes. Some of other features that are being recommended by respondent will be applied as well such the size of the font and also the colour that play parts especially to elders, who has weak vision.

3.0 Project Report 3: System Analysis and Design Report

3.1 System Analysis Report

3.1.1 <u>List of Business Actors</u>

No	Actor(s)	Synonym	Description
1	Customer	User	An individual that request to
			keep track on the health
			lifestyle and medical records.
2	Hospital	Hospital	A group of people that manage the medical records, appointment date with user.
3	System Admin	Administrator	Entity that ensure the
			maintenance of the system is in
			good condition.

Table 3.1.1 (a): List of Business Actors of the new proposed system

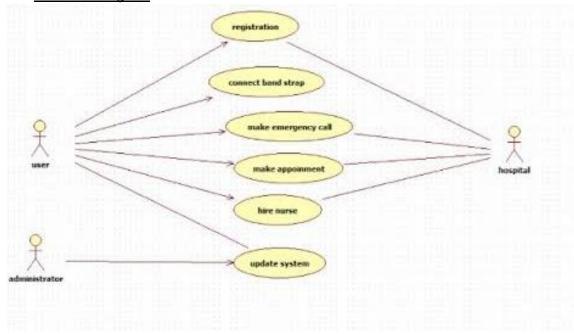
3.1.2 <u>List of Business Requirements</u>

Use Case	Description	Participating Actors and Roles	Subsystem
Register	This use case describes the event of users need to have an account if they want to use this application.	User (primary actor) Administrator (external receiver)	None
Band strap	This use case describes the event of user requesting to connect band strap with device to system via Bluetooth.	User (primary actor) Administrator (external receiver)	None
Emergency Call	This is for user to make emergency call to the nearest hospital via system.	User (primary actor) System (external receiver)	None
Appointment	This use case describes the event of user set date and time to make medical check up appointment at nearest hospital.	User (primary actor) System (external receiver)	None

Hire Nurse	This use case describes the event of user hire a nurse from hospital by setting date and time.	User (primary actor) System (external receiver)	None
Update System	This use case describes the event of the system administrator make some changes and maintenance on the system.	Administrator (primary actor) User (external receiver)	None

Table 3.1.2 (a): List of Business Requirements of the new proposed system

3.1.3 <u>Use Case Diagram</u>



3.1.4 System Analysis

3.1.4.1 Use Case Narratives

USE CASE NAME	Register		
USE CASE ID	ECOMP V - 001.99		
PRIORITY	High		
SOURCE	Requirement - MSS-R1.00		
	Business Requirement Use C	Case - MSS - BCU02.00	
PRIMARY BUSINESS ACTOR	User (Alias - Patient)		
PRIMARY SYSTEM ACTOR	Administrator		
OTHER PARTICIPATING ACTORS	Hospital		
OTHER INTERESTED ACTORS	None		
DESCRIPTION	Actor will need to register an account before they can use this system. To register actor need to provide name, age, gender, address, phone number, email and password. Actor who have registered can login by using medical ID which will be sent by email and password.		
PRE-CONDITION	Actor need to register in order and for existed user they need ID and password.		
TRIGGERING EVENT	This use case will triggered when user submit their details and login to the user account.		
STEPS PEFORMED	Actor Action	System Response	
	 User need to register by filling in the field that requires. User will submit details. User login using Medical ID and password. 	3. System will receive user details and save in database.4. System will send medical ID through email as a confirmation.	

ALTERNATE COURSES	Alt Step 2 - If user missed filling the field provided, it will not proceed to register and will show incomplete details message. Alt Step 3 and 4 - System will not able to save data and register the new user if the connection lost. Alt Step 5 - User enter wrong medical ID or password, it will not proceed but display incorrect medical ID or password.
CONCLUSION	This use case allow user to use the system, as this is the core of any use case.
POST CONDITION	System will display user account homepage after the user login to the account.
BUSINESS RULES	 The user must use only one email for one medical ID. User will be access to the account with matching medical ID and password
IMPLEMENTATION CONSTRAINTS AND SPECIFICATIONS	- Internet source is need to register and access to their account.
ASSUMPTIONS	 User can exit from the register web page before submit the details needed and they will not registers as legal user of the system. User might forget the password and may recover through email authentication.
OPEN ISSUES	None

USE CASE NAME ID	Band Strap
USE CASE ID	ECOMP V - 002.99
PRIORITY	Medium
SOURCE	Requirement - MSS-R1.00
	Business Requirement Use Case - MSS - BCU02.00

PRIMARY BUSINESS ACTOR	User (Alias - Patient, Guardia	nn)	
PRIMARY SYSTEM ACTOR	None		
OTHER PARTICIPATING ACTORS	None		
OTHER INTERESTED ACTORS	None		
DESCRIPTION	This use case function to connect devices to a band strap in order to detect and calculate heartbeat rate, blood pressure, walk distance and count step.		
PRE- CONDITION	User must have device and band strap.		
TRIGGERING EVENT	User's device need to be connected to the band strap using bluetooth.		
STEPS PERFORMED	Actor Action	System Response	
	User turn on bluetoothh setting on device and band strap. User can display heart beat, blood pressure, walk distance and steps count.	 System will connect both devices. System detects heart beat, blood pressure, walk distance and steps count. System sends output to device. 	
ALTERNATE COURSES	Alt step 3 - The system unable to detect any of the details, it will remain zero in the number scale.		
	Alt Step 5 - Details will not be displayed if the band strap unable to detect any movement.		
CONCLUSION	This use case allow user to display their heart rate, blood pressure, walk distance and steps.		
POST CONDITION	All details will be displayed once the device is connected and the band strap can detect movement.		
BUSINESS RULES	- User must own a device like handphone or laptopUser must have a band strap that can connect to devices.		

IMPLEMENTAION	- Zero of battery for band strap or device will			
CONSTRAINTS AND	disconnect the connection to device.			
SPECIFICATIONS	- If there is no movement detected by band strap it will remain zero value.			
	- It will give a warning to device if the reading of the blood pressure and heart rate is too high or too low.			
ASSUMPTIONS	TIONS - User will able to track of walking distance and number of steps per day.			
	- User is able to get warned if the blood pressure and heart rate is not normal.			
OPEN ISSUES	- User may unable to connect if band strap does not have bluetooth.			
	- User might not have or not able to buy band strap.			

USE CASE NAME:	Emergency Call
USE CASE ID	ECOMP V - 003.99
PRIORITY	HIGH
SOURCE	Requirement - MSS-R1.00 Business Requirement Use Case - MSS - BCU02.00
PRIMARY BUSINESS ACTOR	Hospital
PRIMARY SYSTEM ACTOR	Patient/ Elderly
OTHER PARTICIPATING ACTORS	None
OTHER INTERESTED ACTORS	None

DESCRIPTION:	This use case describes the process of making emergency call to the nearest hospital by the elderly or sick people so they can get the health support as early as possible.	
PRE- CONDITION	User must be registered and assigned to the contact list of nearest hospital.	
TRIGGERING EVENT	User use their phone to make the call to the hospital via our app and thats the triggering event in this use case.	
STEPS PERFORMED	Actor Action	System Response
	1.The user of our app made the call to the nearest hospital. 3. The user gets the response from the medical and gives their location.	 The system lets the hospital know about an emergency call by the user. The hospital provides emergency support as early as possible.
ALTERNATE COURSES	None	
CONCLUSION	Using the emergency call system, user will be able to notify the health supervising persons about their urgent needs.	
POST CONDITION	After making the call to the hospital the doctors will come to know about the emergency matter.	
BUSINESS RULES	- User must own a cellular device like handphone.	
	- Users must be registered to use the facilities provided by the system.	
IMPLEMENTATION CONSTRAINTS AND SPECIFICATIONS	-User must have balance and charge in their handphone. -User should be able to make the authority understand about his/ her problems.	
ASSUMPTIONS	-User will be able to contact with the hospital successfully.	
	-The hospital will provide the proper support in the emergency case.	

OPEN ISSUES	-User might not get the mobile phone or gadget to contact with the authority.	
	-User might not be able to call hospital due to low mobile balance or charge .	
	-The user doesn't own a mobile phone.	

USE CASE NAME	Appointment	
USE CASE ID	ECOMP V - 004.99	
PRIORITY	High	
SOURCE	Requirement - MSS-R1.00	
	Business Requirement Use Case - MSS - BCU02.00	
PRIMARY BUSINESS ACTOR	Hospital	
PRIMARY SYSTEM ACTOR	Patients/Elderly	
OTHER PARTICIPATING ACTORS	None	
OTHER INTERESTED ACTORS	None	
DESCRIPTION	This use case describes the process that decides to make an appointment .A concerned Hospital will be requested to make an appointment by elderly people. hospital will provide a suitable date and time.	
PRE- CONDTION	Users must be registered and assigned to a certain hospital and need enough money to make appointment	
TRIGGERING EVENT	User use their own account to log in .	

STEPS PERFORMED	Actor Action	System Response	
	1.First users have to use their own account no to log in	2. system allows him/her to access if the account is valid	
	3.user have to request the regarding hospital to make an appointment.	4.system will accept his request if his ac is valid and will give date and time.	
	5. user will choose his/her suitable time and date.	6.system will confirm the chosen date and time.	
ALTERNATE COURSES	None		
CONCLUSION	This use case provide an date and time to make an appointment.		
POST CONDITION	User must be come at accurate date and time.		
BUSINESS RULES	User need to select date and time .		
IMPLEMENTATION	After a certain time user can i	After a certain time user can not able to change his/her	
CONSTRAINTS AND	date and time.		
SPECIFICATIONS			
ASSUMPTIONS	None		
OPEN ISSUES	None		

USE CASE NAME	Hire Nurse	
USE CASE ID	ECOMP V - 005.99	
PRIORITY	Medium	
SOURCE	None	
PRIMARY BUSINESS ACTOR	Patient	
PRIMARY SYSTEM ACTOR	Hospital	
OTHER	Administrator	
PARTICIPATING ACTORS		
OTHER INTERESTED ACTORS	None	
DESCRIPTION:	This use case describes the process of hiring a nurse from the hospital to help patient outside of the hospital.	
PRE-CONDITION:	User must have an account to access.	
TRIGGERING EVENT:	User need to apply for calling a nurse.	
STEPS PERFORMED	Actor Action	System Response
	1.Tap hire a nurse.	2.System will show available nurses.
	3.Choose a nurse from the list.	4.Biodata of the nurse will be shown.
	5. Hire the nurse and give your address.	6.The nurse will be notified and your address will be sent.
ALTERNATE COURSES	None	
CONCLUSION	-It will help to Process to hire a nurse.	
POST CONDITION	-Nurse will come to patients p	place to help.

BUSINESS RULES	 User must own a cellular device like handphone. Users must be registered to use the facilities provided by the system.
IMPLEMENTATION CONSTRAINTS AND SPECIFICATIONS	-User must have balance and charge in their handphoneUser should be able to make the authority understand about his/ her problems.
ASSUMPTIONS	-User will be able to contact with the hospital successfullyThe hospital will provide the proper support.
OPEN ISSUES	 -User might not get the mobile phone or gadget to contact with the authority . -User might not be able to call hospital due to low mobile balance or charge . -The user doesn't own a mobile phone.

USE CASE NAME	Update System
USE CASE ID	ECOMP V - 006.99
PRIORITY	Low
SOURCE	Requirement - MSS-R1.00
	Business Requirement Use Case - MSS - BCU02.00
PRIMARY BUSINESS ACTOR	Administrator
PRIMARY SYSTEM ACTOR	None
OTHER PARTICIPATING ACTORS	User (Alias - Patient and Guardian)

OTHER	None		
INTERESTED			
ACTORS			
DESCRIPTION	This use case describe for	the administrator to make	
	some updates or maintenar	nces for the system.	
PRE- CONDITION	Administrator need to login to get access		
TRIGGERING	This use case initiated when the administrator		
EVENT	apply	asinton an as	
STEPS PERFORMED	some changes during n Actor Action	System Response	
SIEFSFERFURIVED		*	
	1. Administrator request	*	
	to make change on the system.	request and approve the request.	
		Toquosti	
	3.Administrator do		
	maintenance and changes	4.System will saved on	
	on the system.	the maintenance and	
		changes being made.	
ALTERNATE	Alt Step 4: System will unable to save the changes if		
COURSES	there is no internet.		
CONCLUSION	This to conclude that this	use case is used to make	
	some maintenance in order to maintain the system in		
	good condition.		
POST CONDITION	Any changes and mainten	ance will be saved and the	
	user is able to experience a smooth system.		
BUSINESS RULES	- System administrator must have account to access.		
IMPLEMENTATION	- Internet is unavailable to	- Internet is unavailable to save the changes that has	
CONSTRAINTS AND	been made.		
SPECIFICATIONS			
ASSUMPTIONS	- The system will run smoothly.		
OPEN ISSUES	- The server is down and internet is unavailable.		

3.1.4.2 Activity Diagram

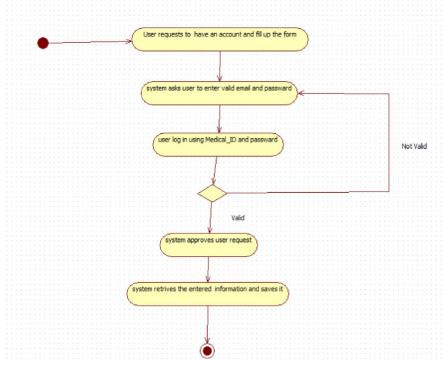


Figure 3.1.4.2 (a) Register Activity Diagram

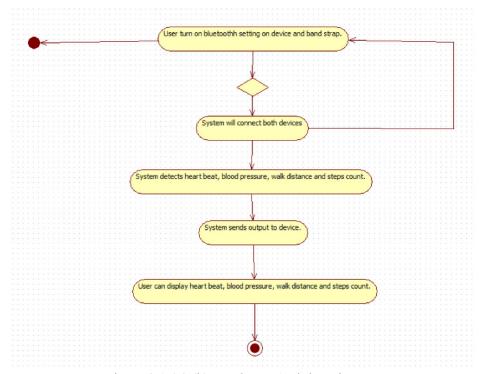


Figure 3.1.4.2 (b) Bandstrap Activity Diagram

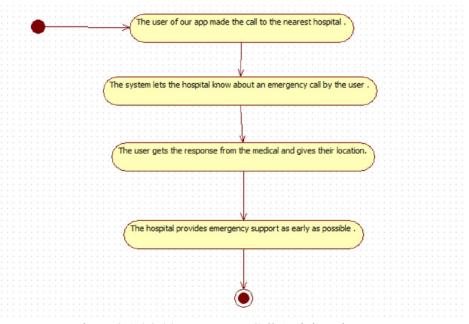


Figure 3.1.4.2 (c) Emergency Call Activity Diagram

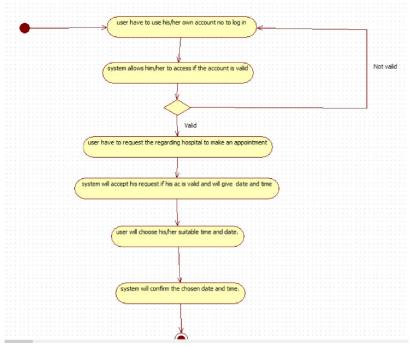


Figure 3.1.4.2 9 (d) Appointment Activity Diagram

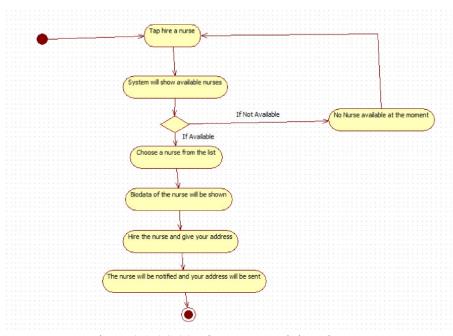


Figure 3.1.4.2 (e) Hire Nurse Activity Diagram

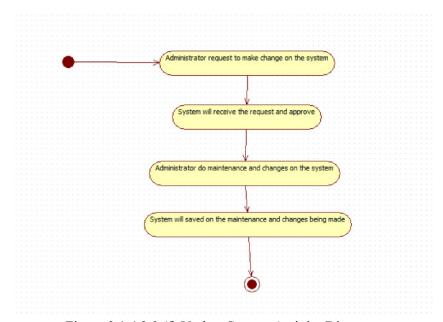


Figure 3.1.4.2 9 (f) Update System Activity Diagram

3.1.4.3 Sequence Diagram

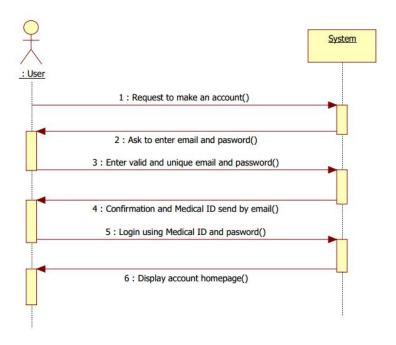


Figure 3.1.4.3 (a) Register Sequence Diagram

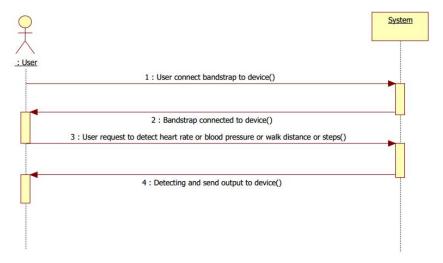


Figure 3.1.4.3 (b) Bandstrap Sequence Diagram

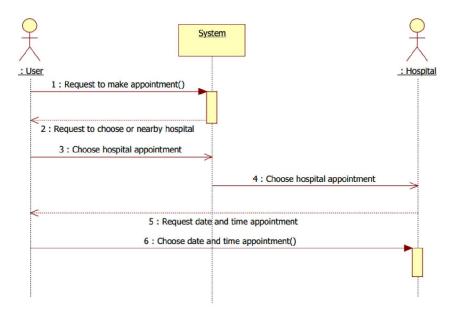


Figure 3.1.4.3 (c) Appointment Sequence Diagram

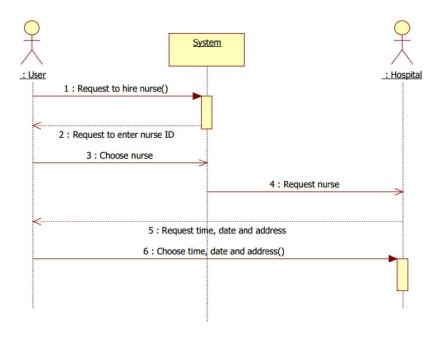


Figure 3.1.4.3 (d) Hire Nurse Sequence Diagram

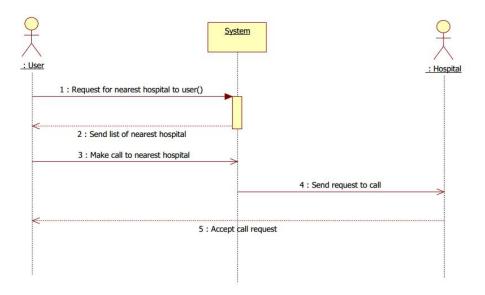


Figure 3.1.4.3 (e) Emergency Call Sequence Diagarm

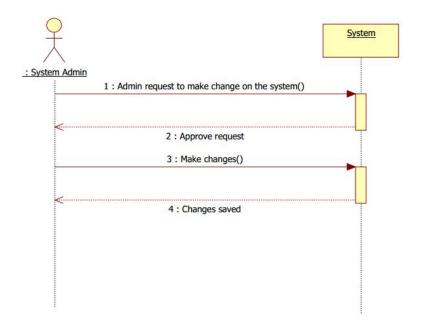


Figure 3.1.4.3 (f) Update System Sequence Diagram

3.1.4.4 Class Diagram

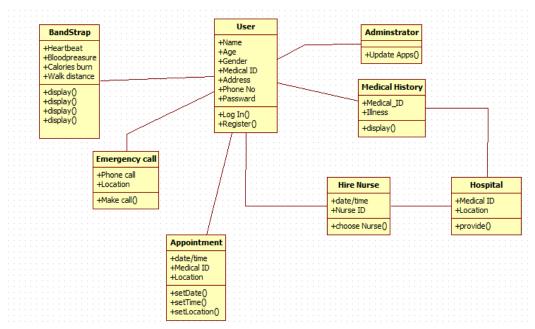


Figure 3.1.4.4 (a)

3.2 <u>Design Analysis Report</u>

3.2.1 Class Diagram

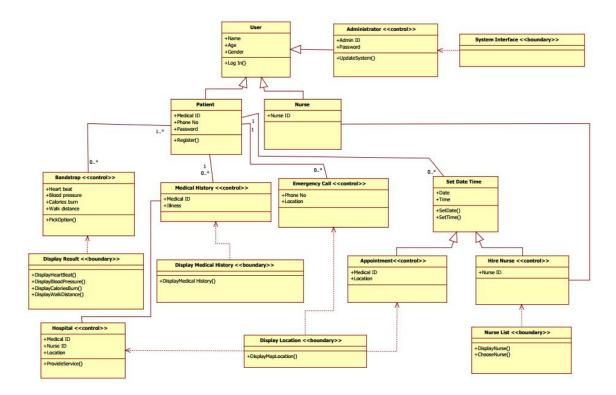


Figure 3.2.1 (a) Design Class Diagram for Companion Tools for Elderly

3.2.2 Sequence Diagram

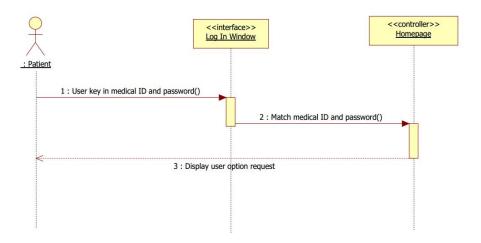


Figure 3.2.2 (a) Sequence Diagram for Log In

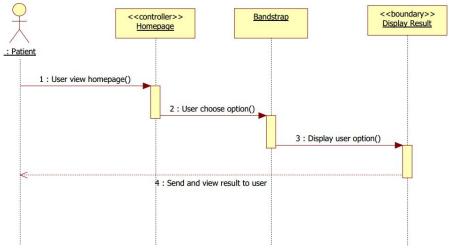


Figure 3.2.2 (b) Sequence Diagram for Bandstrap

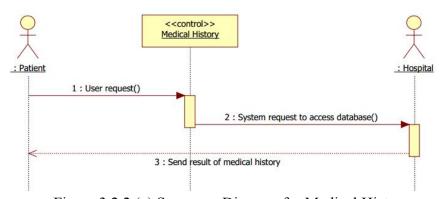


Figure 3.2.2 (c) Sequence Diagram for Medical History

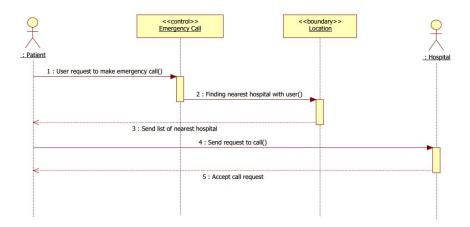


Figure 3.2.2 (d) Sequence Diagram for Emergency Call

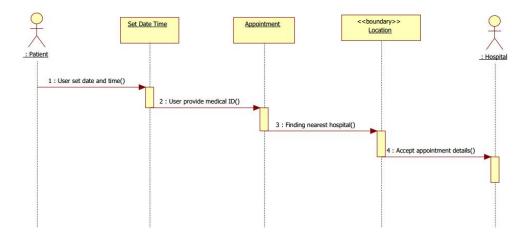


Figure 3.2.2 (e) Sequence Diagram for Appointment

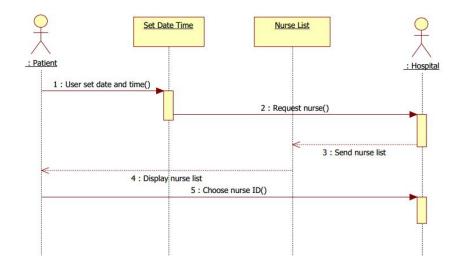


Figure 3.2.2 (f) Sequence Diagram for Hire Nurse

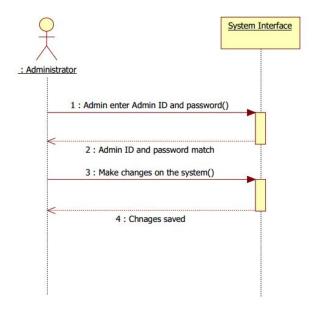


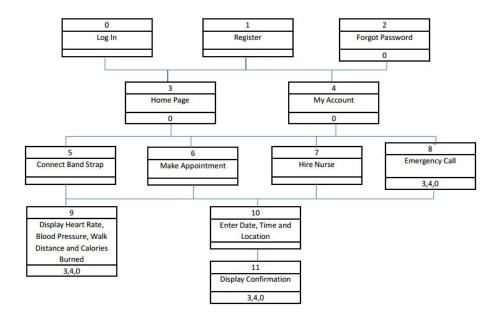
Figure 3.2.2 (g) Sequence Diagram for Update System

4.0 Project Report 4: User Interface Design Report

4.1 Video Link

https://youtu.be/9fuYIlaCYxo

4.2 Interface Dialogue Chart



4.3 Interface Design



Figure 4.3 (a) Log In Page

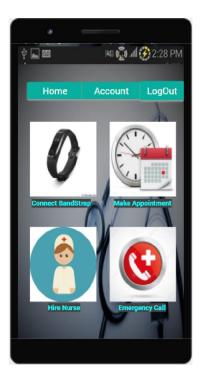


Figure 4.3 (c) Homepage



Figure 4.3 (b) Wrong Password Entered

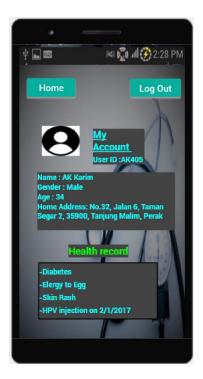


Figure 4.3 (d) My Account



Figure 4.3 (e) Display Band Strap



Figure 4.3 (g) Appointment Confirmation



Figure 4.3 (f) Make Appointment Form



Figure 4.3 (h) Hire Nurse Form

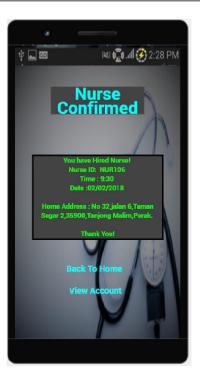


Figure 4.3 (i) Hire Nurse Confirmation



Figure 4.3 (k) Registration Form



Figure 4.3 (j) Make Emergency Call



Figure 4.3 (1) Registration Confirmation



Figure 4.3 (m) Reset Password Form

4.4 <u>Description of Interface Design</u>

- We design the interface by using Just In Mind Prototype applications.
- We choose the layout that is user friendly where everyone can easily understand and learn this mobile application in short time.
- The size of the display layout depends on user's mobile screen size.
- The consistency of the background design for example for the homepage, log in and register screen.
- As shown above, for example the layout for the homepage screen, we included the application logo so that user will be familiar to recognize our system.
- This system used for varies devices such smart phone, laptop, computer or tablet applications. The input method is by both touch screen and keypad.
- GUI controls for Companion Tools For Elderly we used are text boxes and drop down list. Refer to figure 4.2 (a) and 4.2 (b), we used text box for the user to enter Medical ID and password. Then for set time and location, we used drop down list as user can choose their own preference appointment.
- The flow used for the form; register for example is from top to bottom.
- Our user interface design focused on making the user's interaction as simple and efficient as possible.
- As shown in the figures above, we decided to use some variation of colours so that it is easier for elderly to differentiate the text and pictures.

4.5 Summary

Companion Tools for Elder is a health tracking system that may ease the users by providing highly sophisticated views of their health and lifestyle also to keep track on their medical records. A prototype was created to show the flow of Companion Tools for Elderly as well as how it functions. This prototype was created based on survey that we have done to fulfil our users' requirements. As usual, user needs to register or log in before they can use this app. Next, user will be given options on the Home page with Band strap, Make Appointment, Hire Nurse, and Emergency Call. Finally, the users will manage to read their medical records by displaying My Account. This system is inspired by health apps in the store. Targeted users for this system are elderly who aged above 40, patients and guardians as this system will help them to observe their lifestyle and save time by making online appointment.